IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of: **Syuushi NOMURA et al.** Group Art Unit: **1723**

Application Number: **10/500,042** Examiner: **Tony Glen Soohoo**

Filed: **June 23, 2004** Confirmation Number: **5201**

For: **FIELD CONVERTER AND FLUID PROCESSING DEVICE USING THE CONVERTER**

Attorney Docket Number: **042449**
Customer Number: **38834**

DECLARATION UNDER 37 C.F.R. §1.132

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

I, Shinobu WATARAI, a citizen of Japan, hereby declare and state the following:

1. I graduated from Graduate school of Veterinary Medicine, Rakuno Gakuen University of Ebetu-shi, Hokkaido, Japan in 1980 with a Master degree in veterinary science. I received a doctor's degree in connection with the study on veterinary science in 1989, from Hokkaido University.

2. I am an associate professor of Laboratory of Veterinary immunology, Division of Veterinary Science, Graduate School of Life and Environmental Science, Osaka Prefecture University, of which address is 1-1, Gakuen-cho, Naka-ku, Sakai-shi, Osaka, 599-8531 Japan.

3. I am the author of the paper entitled "Anti-virus activity of vG7-treated water to feline calicivirus virus" attached hereto.

4. I have reviewed and am familiar with the above-identified patent application, as well as the Official Actions dated December 1, 2006, May 16, 2007 and January 9, 2008 in the application.

Further, I note that the fluid processing device "vG7" described in the technical paper is the same device of the fluid processing device that is set forth in the description under the sub-title of example 4 of the embodiment and Figs. 6-7.

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5. I have reviewed and am familiar with the contents of cited reference(s), U. S. Patent Nos. 3,747,656 to Mortus, U. S. Patent Nos. 3,424,437 to Shearer, and JP09010776 by Hiromi et al., cited in the Official Actions in the above-identified application.

6. From the experimental results as set forth in the attached paper and those of the specification, I have concluded, among other things, that U. S. Patent Nos. 3,747,656 to Mortus U. S. Patent Nos. 3,424,437 to Shearer, and JP09010776 by Hiromi et al. do not teach or suggest the fluid processing device as set forth in the application, nor the results obtained by the device, nor would the device be obvious to one of skilled in the art based on the teachings of Mortus, Shearer and Hiromi et al.

The undersigned declares that all statements made herein of his own knowledge are true, and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under §1001 of Title 18 of the United States Code and that willful false statements may jeopardize the validity of the application or any patent issued thereon.

Shinobu Watarai

Shinobu WATARAI Ph. D.

Signed this 4 day of March, 2008.
Month Year

Certificate of Experiment 2-2

Anti-virus activity of vG7-treated water to feline calicivirus virus

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Methods
This experiment was performed to test the anti-virus activity of vG7-treated water.

To obtain the sterilized vG7-treated water, distilled water was passed through the vG7, then was filtered through a 0.22 micro meter membrane filter. To obtain the sterilized water (Control), the intact distilled water, which is other part of the distilled water used for obtaining the sterilized vG7-treated water, was filtered through a 0.22 micro meter membrane filter.

Feline calicivirus virus was used for this test. The titer of infectious virus was determined by limiting dilution in cultures of Crandell's feline kidney (CRFK) cells and was expressed as 50% tissue-culture infectious dose (TCID50). Five hundred microliters of 100-fold-diluted virus solution was mixed in 1:1 (v/v) with the sterilized vG7-treated water or the sterilized water (Control) and diluted with medium (10-fold dilution series). After that, 0.1ml of diluted virus solution was transferred onto CRFK cell monolayers in 96-well plates (Corning) and cultured at 37 °C for 4 days. After cultivation, viral-induced cytopathic effect was monitored by light microscopy. The virus titer was obtained as the reciprocal of the highest dilution which gave TCID50.

Results
The TCID50 of the virus mixing with the sterilized vG7-treated water was less than 200. On the other hand, TCID50of the virus mixing with the sterilized water (Control) was 2×10^5.

Comparing the results, the TCID50 of the virus was decreased by mixing with the sterilized vG7-treated water. This evidence clearly shows that the vG7-treated water has the inactivation activity against feline calicivirus virus.